



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,338	03/29/2004	Mahendra Madhukar Patil	140320-1/YOD GERD:0106	2694
41838 7590 11/26/2010 GENERAL ELECTRIC COMPANY (PCPI) C/O FLETCHER YODER P. O. BOX 692289 HOUSTON, TX 77269-2289				
EXAMINER SUERETH, SARAH ELIZABETH				
ART UNIT		PAPER NUMBER		
3749				
MAIL DATE		DELIVERY MODE		
11/26/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/812,338

Applicant(s)

PATIL ET AL.

Examiner

SARAH SUERETH

Art Unit

3749

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/7/10.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-23, 25, 28-36, 38 and 41-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-23, 25, 28-36, 38, 41-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Receipt of applicant's amendment filed on 09/07/10 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-14,16-23,25,28-36,38,41-43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

4. All of the independent claims have been amended to include the limitation "a chemical sensor for detecting a chemical composition in air". As discussed below, it is unclear what the scope of this limitation is. However, to the extent applicant intends to claim that the chemical components of the airflow stream are analyzed into their individual chemical components; this limitation is not supported by the specification as originally filed. The examiner notes that there is support for the further limitation of claim 2, that the sensor detects the presence of cooking fumes within the air; however, this is inconsistent with the new claim limitations. Also, dependent claim 3 recites that the chemical sensor may be a flame sensor, a temperature sensor, or an air velocity

sensor. This limitation is inconsistent with the limitations of claim 3, as these sensors are not traditionally known as "chemical sensors".

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-14,16-23,25,28-36,38,41-43 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. . All of the independent claims have been amended to include the limitation "a chemical sensor for detecting a chemical composition in air". However, the scope of this limitation is unclear. It is unclear if the newly added limitations refer to analyzing the precise chemical composition of an airstream, or if the sensor detects the presence of combustion byproducts inside an airflow. For the purposes of examination, it was regarded as the sensor detecting a chemical composition within the air, including cooking fumes, etc, as this interpretation is consistent with the specification and additional claims (ie claim 2).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1-7, 14,16-20, 22-23,25,28 and 35,36,38,41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Melink 6170480 in view of Bowen 4146016, further in view of Morton 6349716.

Melink discloses the claimed invention: various sensors (76,94,96,82,102) for detecting smoke and combustion products (col. 5, lines 66-67) above an active zone of a cooktop (18), an air moving device (50), control circuitry (70,72) coupled to the sensor and the air moving device, for regulating operation of the air moving device (col. 6, lines 27-31).

Melink also discloses that the presence of cooking byproducts is directly sensed by sensor (76) which may be configured to the desired level of sensitivity by the user (col. 6, lines 49-55). Sensor (76) is regarded as a chemical sensor to the same extent applicant's disclosed sensors are "chemical sensors", as they detect the presence of chemicals as claimed.

Regarding claims 3,23, and 36, Melink discloses that the sensor (82) can be an IR temperature sensor (col. 4, lines 25-30).

Regarding claims 4, 18,26,27,39, and 40, Melink discloses a temperature sensor (76), and also a humidity sensor (col. 9, lines 4,5).

Regarding claims 5 and 20, the controller has several predefined programs activated by the user (col. 10, lines 48-51) via a user interface (134).

Regarding claim 6, the controller is configured to respond to the temperature and humidity sensors (col. 9, lines 1-3).

Regarding claims 7 and 19, the controller sends and receives signals (col. 10, lines 41-44), and is read as capable of receiving at least one of the claimed signals.

Regarding claims 22 and 28, Melink discloses that the controller is configurable by the user (col. 10, lines 57-60), which is read as meeting the claimed limitation "configurable based on installation location".

Additionally, one of ordinary skill in the art would recognize that the programmable thresholds taught by Melink obviously would include site specific factors, such as programming the volume rate of the fan to a size large enough for the kitchen to prevent insufficient ventilation.

Regarding claim 35, the Melink apparatus has the claimed structure, and is disclosed as reducing acoustic noise by varying the fan speed (col. 3, lines 25-30).

Regarding claim 41, the controller uses set point references; an example being a maximum temperature beyond which fire control is activated (col. 10, lines 12-15).

Regarding claim 42, Melink discloses varying the volume ramp over time intervals (col. 3, lines 25-30).

Regarding the table of claim 43, Melink discloses that the controller stores a set of values for volume rates (col. 7, lines 40-45), which is regarded as the claimed look up table.

Melink does not discuss operating in either recirculation or exhaust mode utilizing an air flow direction device connected to the controller. Melink discloses operating in an exhaust mode only, utilizing supplemental air from outside to resupply the air inside the kitchen.

However, Melink discusses the difficulty of maintaining the interior temperature of the kitchen during the winter, as continuing to draw in cold outside air would cause the kitchen inside temperature to become uncomfortable (col. 9, lines 37-43).

Bowen solves this problem by providing an adjustable damper (76) movable between an exhaust (Fig. 2) and recirculation (Fig. 3) position.

Bowen teaches that providing a recirculation air path inside the hood allows for the heat to be conserved in the kitchen (col. 3, lines 63-68 and col. 4, lines 1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Melink apparatus by adding an adjustable damper as taught by Bowen in order to conserve heat in the kitchen (Bowen, col. 4, lines 1-2).

As discussed above, Bowen does not suggest that the damper is automatically controlled. The damper is disclosed to be manually movable between two positions (col. 4, lines 31-32).

Morton discloses: a ventilation system (10) including a sensor (60), an air moving device (33); an air flow direction control device (34) for directing the air between exhaust and recirculation pathways (col. 2, lines 36-40); and control circuitry (62) for regulating the position of the flow control device based upon signals from the sensor (col. 3, lines 47-49).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Melink in view of Bowen apparatus by automating movement of the damper as taught by Morton in order to allow the damper to be automatically adjusted when triggered by a sensor (col. 3, lines 50-53).

The method claims 14,16-20 and 35,36,38,41-43 are rejected because the prior art apparatus discussed above performs the claimed method steps.

11. Claims 8, 9, 11-13, 21, 29, 30, and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Melink 6170480 in view of Bowen 4146016, further in view of Morton 6349716, as discussed above, and further in view of Wang et al 5236595.

As discussed above, the Melink in view of Morton combination does not include a grease filter.

Wang et al shows a filter (col. 6, lines 11-24) for the purpose of purifying air (col. 6, line 9). The filter is taught to remove grease (col. 6, line 8), odor (col. 6, line 9), and bacteria (col. 6, line 8). The air purification device also includes UV air purification (col. 6, lines 28, 29), which is read as an active device.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Melink in view of Morton apparatus with the Wang air purification device, in order to remove undesirable constituents (col. 5, lines 16, 17).

Claim 21 is rejected because the prior art apparatus discussed above performs the claimed method step.

12. Claims 10 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Melink in view of Bowen, further in view of Morton and Wang as discussed above, and further in view of Jensen 6521859.

As discussed above, Wang et al discloses a UV air purification device, but not a corona discharge device.

Jensen teaches that both UV air purification devices and corona discharge devices work to irradiate air (col. 1, lines 66, 67).

The courts have held that substituting known equivalents for the same purpose is not a patentable modification (In re Fout, 675 F.2d 297, 213 USPQ 532 (CCPA 1982), also MPEP 2144.06).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Melink/Bowen/Morton/Wang apparatus by substituting the Jensen corona discharge device for the UV air purification device, in order to produce high quantities of ozone at a low cost (Jensen col. 2, lines 11-15).

Claim 31 is rejected because the prior art apparatus discussed above performs the claimed method step.

Response to Arguments

13. Applicant's arguments filed 9/7/10 have been fully considered but they are not persuasive.

14. Applicant argues that the specification provides support for the newly added limitation of "chemical sensors". The examiner notes that the phrase "chemical sensor" does not appear in the disclosure as originally filed. Applicant argues that all of the sensors described in claim 3 and in the specification are regarded as "chemical sensors" because they sense the presence of chemical compositions. The examiner respectfully disagrees, as one of ordinary skill in the art would not consider a temperature sensor or velocity sensor to be a "chemical sensor".

15. Applicant then argues that Melink sensor is not a chemical sensor, as it merely detects the presence of chemicals, and not their precise chemical composition. In response, the Examiner notes that applicant's arguments are inconsistent. If the sensors of claim 3 are regarded as "chemical sensors" because they detect the presence of chemicals, then surely the byproduct detector of Melink is also a "chemical sensor", as it performs the identical function.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARAH SUERETH whose telephone number is

Art Unit: 3749

(571)272-9061. The examiner can normally be reached on Mondays through Friday 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sarah Suereth/
Examiner, Art Unit 3749

/Carl D. Price/
Primary Examiner, Art Unit 3749